

## CODE-SWITCHING AND SECOND LANGUAGE ACQUISITION\*

Almeida Jacqueline Toribio

University of California, Santa Barbara

### Abstract

The present paper seeks to determine whether, and if so, how the sensitivity to the Functional Head Constraint emerges in incipient adult bilingualism. Of interest is the rejection of Spanish-English code-switching forms such as "Five of my cousins have *completado estudios universitarios*" ('...completed university studies') among speakers of diverse levels of second language competence. The study takes on particular import given that second language learners receive no evidence, positive or negative, which could guide them in determining the appropriate code-switching patterns, and therefore the discovery of co-occurrence restrictions consistent with the Functional Head Constraint would be attributed to the operation of unconscious principles.

### 1. The Functional Head Constraint and the Minimalist Program

In recent years considerable attention has been devoted to exploring code-switching (henceforth, CS) in the context of Chomsky's Principles and Parameters theory. These investigations seek an explanatory adequacy which was lacking in earlier, more descriptive formulations, by exploiting universal principles and relations which are hypothesized to characterize monolingual competence.<sup>1</sup> Most evaluate the extent to which the data attested in CS can be predicted by, and in so doing support, the constructs of linguistic theories. Introducing CS data into this discussion of Universal Grammar (UG), Belazi, Rubin and Toribio (1994) argue that the coherence and co-occurrence restrictions attested in Spanish-English CS may be captured by reference to the Functional Head Constraint (henceforth, FHC) proffered as a general principle of UG:

(1) The Functional Head Constraint (Belazi, Rubin and Toribio 1994)

The language feature of the complement *f*-selected by a functional head, like all other relevant features, must match the corresponding feature of that functional head.

This constraint, grounded in the system of categories of Chomsky (1986) and the relations proposed in Abney (1987), dictates that the abstract semantic and syntactic features of a functional head must match the corresponding features of its complement; the FHC merely

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<sup>1</sup>See, for example, the early formulations of Gíngrás (1974), Timm (1975), Pfaff (1979), and Poplack (1980).

extends the scope of *f*-selection to include language indexing. Accordingly, the [language] feature of a complement *f*-selected by a functional head, like all other relevant features, must match the corresponding language feature of that functional head—i.e., a functional head and its complement must be drawn from the same sub-class of lexical items in the lexicon.

Elaborated in terms of abstract features of functional categories, the FHC has been shown to be sound and defensible, given the current state of linguistic theory, in particular, Chomsky's (1993, 1995) Minimalist Program.<sup>2</sup> In articulating the Minimalist assumptions, Chomsky proposes that lexical items are selected from the lexicon endowed with a collection of formal features, collectively referred to as CASE features, which must be checked against the specifications on functional nodes, thereby motivating overt and covert movement.<sup>3</sup> In the Minimalist Program, then, abstract feature specifications are accorded a central role: when these abstract features mismatch or are not appropriately checked in the course of a derivation, the resultant representation will be ruled out. This holds true of monolingual Spanish expressions, monolingual English expressions, and Spanish-English code-switched expressions.

As discussed in Rubin & Toribio (1995), the FHC assumes that language, together with CASE specifications, is a relevant feature for Morphological Checking: a functional head must select a complement which matches its language feature. Therefore, *f*-selection, conceived within the FHC as a feature matching process, can be understood as being of a similar nature to Morphological Checking (cf. also Toribio & Rubin 1996a,b). An important difference between these is that the FHC refers to the complements of functional heads, which do not form part of the Checking Domain of those functional elements; rather, complements are the sole elements of the Internal Domain of those functional elements. However, just as with Morphological Checking, the requisite relation that holds between a functional head and its complement is determined by inherent semantic and syntactic features: a functional element has certain selectional properties, admitting certain of complements and not others. Thus, the semantic and syntactic features of a functional head must conform to those of its complement; if there is a feature mismatch, the representation will be illegitimate.

Of course, the linguistic-theoretical status of this language feature is an issue which warrants some scrutiny, as MacSwan (1997) also points out. In the Minimalist Program, a particular language is assumed to be derivative in nature, a taxonomic artifact, i.e., "Spanish"

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<sup>2</sup>In previous work (Toribio 1998a,b,c), I addresses counterexamples to the constraint, as presented by Mahootian & Santorini (1996), MacSwan (1997), and Nishimura (1997). The criticisms leveled against the FHC are argued to be unfounded, based in the misinterpretation of the contact phenomenon at issue, the misapplication of the proposed constraint, and the poor understanding of the framework in which these are to be understood. The syntactic-theoretical validity of the constraint is reaffirmed, and the constraint is recast in terms of abstract feature matching, rendering it consonant with Minimalist Program assumptions (Chomsky 1993, 1995).

<sup>3</sup>For Morphological Checking and convergence to occur, an element with some feature must be in a specific structural relation with a checker for that feature. The Checking Domain of a head comprises all elements included in its maximal projection, where inclusion is understood in the sense of Chomsky (1986), and thus includes adjuncts and Specifiers, but excludes elements contained within complements of the head.

and "English" are labels for a set of linguistic expressions, formal objects that satisfy interface conditions. Thus, reference to a language feature in the FHC appears to stand in opposition to the research program adopted here. In previous work (e.g., Toribio 1998a,b,c), I have omitted discussion on the issue; I will attempt to clarify the matter here, drawing on the insights of Rubin (1996) and Roeper (1996).

The underlying assumption in the Minimalist Program is that Language, properly understood in its technical sense as I-language, has two components: a language-specific lexicon and an invariant computational system. Therefore, in this system, a bilingual speaker may be understood to possess not two I-languages, but two lexicons, each of which includes substantive categories (N, V, A, P) and functional categories. Recall that each item in the lexicon is articulated with formal features, including features which may be said to be intrinsic to it, and those which are optionally added as the item enters into the numeration. Rubin (1996) characterizes [language] as a member of the set of formal features (a member of FF(LI)), accessible by the syntactic algorithm; it is an optional feature, i.e., specified as a random choice from an available set as each lexical item enters the numeration; and it may stand in some relationship to other features, just as other FF(LI) do.<sup>4</sup> In fact, Rubin suggests that the syntactic relevance of the language feature is independently motivated in monolingual speech, offering as evidence the distinction between two sub-classes of verbs which take dative arguments—the Latinate and Germanic sub-classes, which participate in distinct grammatical processes: only the Germanic sub-class participates in the dative alternation. Following Rubin, a distinct language value is associated with each sub-class. Such a lexical differentiation is also central to the work of Roeper (1996), who suggests that adult monolinguals demonstrate 'islands of bilingualism,' as manifested in the deployment of syntactic operations which are commonly perceived as circumscribing distinct speech registers. One such example is the 'formal' PP-internal preposing which produces forms such as *whereafter*. Roeper argues that if a speaker's normal register does not permit preposing inside PPs, then the expression *whereafter* "constitutes, in miniature, a different grammar."<sup>5</sup>

Thus, the works of both Rubin and Roeper converge to suggest that a speaker may possess distinct grammars as dictated by differential feature specifications of lexical items. Thus while we are in agreement with MacSwan that labelings such as 'Latinate' and 'Germanic' or 'Spanish' and 'English' are "sociopolitical distinctions" which are most meaningful in

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<sup>4</sup>This latter property admits the possibility that the [language] feature may not be a primitive at all, but a cover term for a collection of properties of sets of lexical items. (Rubin notes that there seems to be a connection between the optional status of the [language] feature and its potential derivability, but the two factors, optionality and derivability, remain logically independent.) In any case, Rubin's interest, as ours, is focused on the level of analysis at which the feature itself becomes syntactically relevant, irrespective of whether or not it is ultimately derivable.

<sup>5</sup>Thus, lexical entries may additionally include information about the status of the lexical items, e.g., whether the word is of the same dialect as the learner's other vocabulary, whether it is of a special register or style, etc., as determined by the norms of the speech community. In this respect, it merits noting that CS in bilingual speech has been frequently likened to style shifting in monolingual speech (cf., e.g., Hymes 1967).

addressing questions of language use, it is clear that the Language systems may make reference to sub-classes of lexical items. In the case of the monolingual, these may be specified as Class 1 and Class 2; in the case of the bilingual as Lexicon<sub>1</sub> and Lexicon<sub>2</sub>, or as Lexicon<sub>Spanish</sub> and Lexicon<sub>English</sub>.<sup>6</sup> Thus, the FHC may be reformalized within Minimalist Program as making reference to the labeling of distinct lexical sub-classes.

## 2. CS and Bilingual Competence

It merits emphasizing that the goal underlying the work of Belazi et al. is the exploration of the linguistic competence of the 'perfect' native speaker, in this case, a balanced bilingual.<sup>7</sup> But a bilingual may demonstrate disparate and variable levels of competence in the component languages, a concern as frequently noted as overlooked in investigations on CS. The early works of Valdés (1976) revealed that patterns of CS are similar for bilinguals of similar levels of linguistic competence. This is corroborated by the research of Aguirre (1977) which indicates that balanced adult bilinguals display disparate behaviors in CS from their more Spanish-dominant or English-dominant counterparts. Belazi (1991), too, demonstrated that fluent Arabic-French bilinguals are more sensitive to grammatical constraints on switching than their non-fluent counterparts. These findings indicate that the most proficient code-switchers are also the most proficient speakers of the component languages. In fact, Poplack (1980) has suggested that CS patterns may be used to measure bilingual ability in that intra-sentential switches imply a greater degree of competence in the two grammars involved than do other manifestations of language contact. Moreover, similar patterns are attested in child bilingualism. For example, Wentz & McClure (1975) found that the degree of language proficiency that a child possesses in two languages correlates with the type of CS done: children who are not equally proficient in Spanish and English tend to code-switch predominantly at the word level, usually choosing to switch nouns, while those children having equal proficiency in the two languages choose to code-switch at higher constituency boundaries within the sentence (see also Zentella 1981).<sup>8</sup>

Additional studies in first language acquisition support a direct correlation between the child's degree of proficiency in the two languages and the type of cross-linguistic interaction

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<sup>6</sup>The question arises as to how such a feature might be acquired. Evidence of sub-classes is available in many forms, from contradictory settings of syntactic features (e.g., parameters referencing the availability of null subjects, or feature strength of verbal morphology), or the presence or absence of phonological features, such as palatalization and fricativization, which distinguish English and Spanish.

<sup>7</sup>While a truly balanced bilingual is an ideal, the term is employed to refer to a speaker who has native-like abilities in two languages. Thus, just as the linguistic patterns of a monolingual are measured against an idealized adult monolingual's native-speaker competence (Chomsky 1965), so too are the linguistic patterns of the bilingual measured against an idealized adult bilingual's native-speaker competence.

<sup>8</sup>These studies recall discussions of the distinction between borrowing and CS (see Toribio, this volume). In broad terms, CS is the alternating use of two languages within one clause or utterance, whereas borrowing involves the incorporation of lexical elements from one language in the lexicon of another language.

which is in evidence: language mixing, broadly defined as the indiscriminate combinations of elements from each of the component languages, is most frequent during a very early phase of language acquisition, but as the child acquires greater competence in the two languages, the language contact which is in evidence (if any at all) increasingly takes the form of CS. For instance, Köppe & Meisel's (1995) analysis of the syntactic development of French-German bilingual children reveals a high mixing rate for both children at the beginning of the study, which decreased quickly as the children acquired greater functional structure. Especially noteworthy is the linguistic development of one child, Ivar, which consisted of two stages: the first stage appeared not to be syntactically constrained and showed high rates of mixing of function words; in the second phase, there was a shift from mixing to CS, such that by the age of 2;5, adult syntactic constraints on CS were rarely violated. These findings are interpreted by Köppe & Meisel as suggesting that the acquisition of functional categories plays a crucial role in the development of sensitivity to the grammatical constraints on CS, such that before the development of the system of functional categories in the two languages, CS will not be guided by syntactic principles at all.

The foregoing discussion leads us to conclude that regardless of his or her age, the bilingual's language mixing/CS ability serves as a measure of his or her syntactic competence. In considering adult language learners, we predict that a similar correlation will obtain between speakers' level of second language proficiency and their sensitivity to the grammatical constraints governing CS. Unfortunately, while studies of CS in the bilingual elementary classroom are numerous, studies of CS in the adult second language classroom are far less common, since prescriptive norms are imposed and encouraged.<sup>9</sup> Nevertheless, a few second language researchers have undertaken productive systematic investigations of learners' CS.

Rakowsky (1989) investigated the processing of intra-sentential code-switches by bilinguals and second language learners. She presented Spanish-English bilinguals and native English speakers who were learning Spanish as a second language with a sentence verification task. The test items included unilingual English sentences, unilingual Spanish sentences, sentences with a code-switch at phrasal boundaries and sentences with a code-switch which did not correspond to a phrasal boundary. The bilingual subjects showed no significant difference in reaction times between code-switches at phrasal boundaries, and unilingual sentences; but demonstrated significantly longer reaction times for sentences with code-switches which did not correspond to syntactic boundaries. The second language learners, like bilinguals, took no longer to process sentences with code-switched phrases than unilingual sentences. However, unlike the bilinguals, second language learners did not show a delay in processing code-switches which did not correspond to phrasal boundaries, i.e., these sentences were not processed significantly slower than unilingual sentences or sentences with code-switches phrases. Rakowsky's findings

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<sup>9</sup>CS is stigmatized in most learning contexts, and teachers and learners themselves generally relate it to a lack of language proficiency. In fact, most teaching methodologies try to suppress this type of first-language usage, because it is viewed as harmful to the acquisition process. In this context, CS is viewed not as a legitimate linguistic behavior, worthy of investigation, but as a failure on the part of the learner to even attempt a second language form; it is considered an uncontrolled practice in which the speaker fails to communicate according to the prescribed model. It is not surprising that CS, so perceived, is of little interest to second language research, which is concerned primarily with second language achievement.

are suggestive of a tendency towards translation and structural reinterpretation of code-switched sentences on the part of second language learners; the sentences are processed as consistent with structures and meanings of the dominant native language. These findings were replicated in a pilot study carried out by Toribio, Roebuck, Lantolf and Perrone (1993).

Toribio et al. hypothesized that if UG is available for second language acquisition beyond the critical period, then adult learners should obey the FHC. An elicited imitation task used in accessing the speakers' linguistic competence showed that the beginning second language students exhibited random processing errors, indicating that they had general difficulty with the task. The intermediate students imitated the well-formed as well as the ill-formed code-switches with fluency, indicating that, although more fluent than the beginners, they were not yet competent in both languages. Most significantly, the advanced group readily repeated the well-formed code-switched sentences, but had consistent problems with the ill-formed switches, demonstrating various types of disfluency (e.g., pauses, breakdowns, even laughter), or changed the sentence to well-formed code-switches. Based on these findings, Toribio et al. suggest that the beginning and intermediate adult second-language learners accept the code-switched strings not because they are engaging in CS, but because they are reinterpreting the Spanish segments of the sentences into their first language, English, and therefore, in their judgment, even the ill-formed switches do not constitute violations of principles of grammar. That is, they do not show UG effects distinct from those of the first language, at this stage of development.

Toribio et al.'s results are corroborated by a pilot study carried out by Bhatia & Ritchie (1996) in which six intermediate and four advanced adult English learners of Hindi were asked to judge English-Hindi code-switched sentences which violated the dependency between various functional elements and their complements. In that study, the intermediate participants accepted ungrammatical code-switched sentences, demonstrating a tendency towards structural reinterpretation which was not evidenced among subjects with advanced bilingual competence; the latter offered responses which were consistent with the FHC. On the basis of these findings, Bhatia & Ritchie hypothesize that bilinguals follow specific states in the process of acquiring the 'mixed' linguistic system: from one single native lexicon incorporating borrowings, to translation and reinterpretation across two lexicons, through the emergence of UG principles.

### **3. The Present Study: CS and Second Language Acquisition**

As we have established, native and more balanced Spanish-English bilingual speakers demonstrate knowledge of the abstract linguistic principles that both license grammatical strings and disallow ungrammatical ones for CS. At the same time, we have discussed various studies which suggest that a bilingual's increased competence in the component languages correlates with increased sensitivity to CS norms. Based on the conclusions of Toribio (this volume) that advanced bilinguals render judgments on the grammatical status of sentences on the basis of genuine linguistic intuitions, the present study seeks to determine whether similar evidence can be uncovered for less advanced second language learners. This study takes on particular import given that second language learners receive no evidence, positive or negative, which could guide them in determining the appropriate CS patterns. Thus the discovery of co-occurrence restrictions consistent with those observed among advanced bilinguals would be attributed to unconscious linguistic principles, i.e., to aspects of learners' bilingual competence, specifically, the FHC. The aim of the present study, then, is to determine whether the FHC is operative in

second language acquisition, and what correlation obtains between the operation of this constraint of UG and a speaker's degree of bilingual competence.<sup>10</sup> The hypothesis to be tested is the following: As a speaker approximates competence in two languages, that speaker will exhibit a greater sensitivity to the grammatical constraints on CS, in accordance with the FHC. Consonant with this hypothesis, we predict that increased second language competence will correlate with increased success at rejecting ill-formed switches.

Seventy second language learners of two levels and thirty-four advanced bilinguals participated in the study. All learners were native speakers of English enrolled in university Spanish language courses; all advanced speakers were enrolled in upper division content courses taught in Spanish, and included native bilinguals. The participants were distributed over three levels of proficiency, as determined by course placement: 44 Beginners, i.e., native English-speakers with one semester of university Spanish-language study and minimal previous high-school experience; 26 Intermediate learners, i.e., native English-speakers with three semesters of university Spanish-language study; and 34 Advanced speakers, with at least six semesters of university study (the group included native Spanish-English bilinguals).<sup>11</sup>

A grammaticality judgment questionnaire was designed and administered to the one hundred four participants. In this respect, the present study differs from the pilot study, which drew its conclusions from elicited imitation. Unlike the traditional grammaticality judgment task, the sentences were presented in pairs, thereby drawing attention to the switch site, and participants were asked to render a judgment on acceptability, rather than on grammaticality (for further discussion, see Toribio, (this volume)). Of particular interest in corroborating the FHC is the acceptance of switching at the junctures of functional versus lexical categories and their complements. Accordingly, each pair of sentences included an item incorporating switching at the juncture of one of four functional categories (MOD/AUX, COMP, NEG, QUANT/NUM) or one of four lexical categories (P, N, V, A). The grammaticality judgment task was followed by an informal linguistic survey which consisted in a single question posed to encourage participants to introspect on their judgments: "Reviewing your responses on the grammatical acceptability questionnaire, what patterns emerge? What factors influenced your judgments?"

As syntactic principles are formulated in terms of negative constraints on the grammar, eliciting a learner's judgments about ungrammatical sentences proves particularly significant: rejection of such violations can be ascribed to the operation of such a principle. This in mind, we begin with the results for those test items predicted to be ill-formed by the FHC. As shown in (2), Advanced participants rejected the sentences predicted to be ill-formed by the FHC: no Advanced participant accepted switching between MOD/AUX and its complement or between NEG and its complement, and an insignificant number indicated the acceptability of switching between COMP and its complement and between QUANT/NUM and its complement. These findings strongly support the applicability of the FHC among this group. A markedly disparate pattern emerged among the Intermediate and Beginning participants. The Intermediate

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<sup>10</sup>This work has its basis in the preliminary work of Toribio et al. (1993), but differs in significant respects, as will be discussed.

<sup>11</sup>The Advanced participants served as the subjects in the study reported in Toribio (this volume).

participants presented high rates of acceptance of switching at the juncture between a functional element and its complement; rates were lowest for switching at the juncture of NEG, and acceptability increased in the MOD/AUX test items, further in QUANT/NUM and peaked with the very high acceptance rates reported for switching between the functional element COMP and its complement. The responses of the Beginning learners demonstrate even greater acceptance of forms predicted to be ill-formed by the FHC; in the instance of NEG, the rate doubled that of Intermediate learners, and in the instance of AUX, it approximated the same increase.<sup>12</sup>

(2) Acceptance of switching between the functional elements and their complement (n/%):

	Advanced (n=34)	Intermediate (n=26)	Beginning (n=44)
MOD/AUX (n=4)	0/0	16/15.38	49/27.84
COMP (n=4)	4/2.94	52/50	109/61.93
NEG (n=4)	0/0	12/11.53	46/26.13
QUANT/NUM (n=4)	5/3.67	38/34.61	89/50.56
Total	(n=455) 9/1.65	(n=416) 118/28.36	(n=704) 293/41.61

In contrast, as shown in (3), the overall rates for switching between lexical elements PREP, N, and V and their complements was high for all participants. However, a different pattern emerged for switching between the lexical element A and its complement. While advanced respondents accepted switching between an A and its PP complement, the Intermediate and Beginning participants demonstrated markedly reduced rates of acceptance. While we cannot explain why the acceptance rates are so drastically diminished in these cases, we note that switching in the context of adjectival modification was generally rejected.<sup>13</sup> We therefore omit these items from consideration. The results for remaining test items which incorporated switching between lexical elements and their complements may be summarized as in (3).

(3) Acceptance of switching between lexical elements and their complements (n/%):

	Advanced (n=34)	Intermediate (n=26)	Beginning (n=44)
PREP (n=3)	86/84.31	54/69.23	97/73.48
N (n=1)	25/73.52	16/61.53	32/72.72
V (n=9)	286/93.46	179/76.49	309/78.03
[A (n=2)]	[48/70.58]	[11/21.15]	[29/32.95]
Total	(n=442) 397/89.81	(n=338) 249/73.66	(n=572) 438/76.57

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<sup>12</sup>Interestingly, the relative acceptance of these items remained constant: rates were lowest for switching at the juncture of NEG, and acceptability increased in the MOD/AUX test items, further in QUANT/NUM and peaked with the very high acceptance rates reported for switching between the functional element COMP and its complement.

<sup>13</sup>The generally low incidence of switching of adjectives is also noted in Poplack (1980), Lipski (1985), and Zentella (1997).



Likewise, participants accepted CS at the boundary between the subject and predicate and the switching of various types of sentential and verbal adjunct modifiers. As shown in (4), the rates of acceptance were highest for the Advanced participants, and were higher for the Beginning participants than for the Intermediate participants.

(4) Acceptance of switching at subject/predicate and at adjunct modifier boundaries (n/%):

	Advanced (n=34)	Intermediate (n=26)	Beginning (n=44)
Subject/Predicate (n=2)	66/97.05	39/75	69/78.4
Adjunct modifiers (n=9)	299/97.71	204/87.17	328/82.82
Total	(n=374) 365/97.59	(n=286) 243/84.96	(n=484) 397/82.02

Finally, (5) presents the comparison of acceptance rates across CS types. Of particular significance is the difference between switching at the junctures of functional elements and their complements as compared with switching in other contexts.

(5) Total 'acceptable' responses across stimulus (n/%):

Items	Advanced	Intermediate	Beginning
Functional	9/1.65	118/28.36	293/41.61
Lexical	397/89.81	249/73.66	438/76.57
Clausal	365/97.59	243/84.96	397/82.02

Thus, based in their rejection of sentences predicted to be ill-formed by the FHC, we conclude that the Advanced participants have access to the grammatical knowledge which includes the information necessary for rendering a judgment on the impossibility of these code-switched forms. In contrast, the Beginning participants do not appear to render judgments on the basis of this abstract principle. Unlike the Advanced participants, who rely on unconscious linguistic knowledge assessing the status of ill-formed code-switched sentences, the Beginning participants appear to employ a strategy of translation in assessing the grammaticality status of code-switched sentences. The Intermediate group manifested response behaviours similar to those of both the Advanced and Beginning participants. The judgment task seemed to require them to draw on knowledge that they did not fully possess. Thus, although they demonstrate some tendency to rely on innate knowledge in rendering their judgements, resulting in the higher percentage of accurate judgments than their Beginner counterparts (i.e., rejection of forms which are in violation of the FHC), the Intermediate scores did not approximate those of the Advanced participants.

These findings does not impune the validity of acceptability judgment task for the Intermediate and Beginning participants; rather, these findings make evident that these less advanced learners do not have access to the full range of grammatical properties which must be invoked in rendering these judgments. In fact, the judgment task revealed results consistent with those of the elicited imitation employed in the pilot study, i.e., there is a considerable degree of consistency in participant behavior across these methodologies. Thus we have addressed the issue of the reliability of second language acceptability judgments—sentence acceptability judgments do, in fact, measure what they are purported to measure. We have also addressed the equally important question regarding the validity of learner judgments: not only are the

judgments consistent, but they are predicated on abstract linguistic principles rather than on prescriptive norms; for the Advanced participants, at least, this grammatical knowledge includes the abstract features to which the FHC makes reference.

The linguistic survey affords additional insights into participants' linguistic competence. The comments offered by all of the participants to the elicitation of introspection referenced varied and multiple aspects of CS behavior and form, and will not be fully reproduced here. The Advanced participants' reports of their introspection on CS judgments were most candid and informative. Some purported to refrain from CS in their own speech, and others reported negative evaluations of CS in the speech of others. Nevertheless, all Advanced participants recognized that CS demonstrates grammatical patterns, and one astute respondent observed that grammatical norms are to be found among *fluent* bilinguals. The majority of responses reference the unacceptability of switching across the boundary between a functional element and its complement. There were fewer comments regarding switching between a lexical category and its complement, as expected, given the well-formedness of CS in this syntactic context. Of these, most pertain to switching at the V boundary, with participants indicating a general acceptance for switching between subject and predicate, and between V and its object, and several respondents commenting on the unacceptability of CS where the adjective and noun do not obey the word order requirements of the grammar from which they are drawn.

Intermediate participants demonstrated less acumen than the Advanced participants in their responses. While most perceived their judgments to have been non-random, they experienced difficulty in articulating the factors that led to this characterization and entered into the formulation of their judgments. While some commented on the unacceptability of switching at specific junctures, most frequently focusing on MOD/AUX and A, others commented on the grammaticality of the fully English and fully Spanish equivalents of the code-switched sentences. But more generally, the Intermediate responses revealed a lack of analysis.

Lastly, The Beginning participants' reports on their introspection revealed a more pronounced lack of discrimination. Many participants reported that they found both items in the test pairs acceptable and others reported their responses to be "basically random." Several of the Beginning participants remarked on having rendered judgments on the English translations of the code-switched sentences, i.e., there was a demonstrated need to "preserve the English grammar structure," in part because the code-switched and fully English translation were interpreted as "meaning the same thing." These participants' comments regarding switching at specific linguistic junctures were reduced in number. While they pointed to the acceptability of CS at major clausal boundaries, e.g., between subject and predicate, several beginning participants reported that the Spanish and English complementizers were interchangeable, and one reported that switching of single nouns was acceptable.

#### 4. Conclusions

Chomsky's Minimalist Program and the findings of the present study allow for the recasting of the traditional question of whether or not adult learners have access to principles of UG. Our findings may be interpreted as suggesting that UG is always operable and operating, and that the interference and transfer errors observed in second language acquisition are due to the differences with respect to the specifications of abstract features of the lexical items which are

held to constrain grammars. In such a system, we expect that learners' interlanguages will vary in highly restricted ways, as they assemble the appropriate collection of features which articulate individual lexical items. The indeterminacy which characterizes the responses of the Beginning participants is due to initial transfer errors: these learners fail to identify a foreign item as belonging to a second language, i.e., as bearing the features that circumscribe the foreign language. Rather, these items are interpreted as translations, i.e., they are encoded with features of the native language. Therefore, we expect such items to conform to the grammar of the first language, until the relevant abstract features are in place. In Minimalist terms, these Beginning learners fail to consistently differentiate the foreign item as belonging to a distinct sub-class from the native lexical items. The linguistic systems of the Intermediate learners are likewise in flux because their differentiation may be incomplete. That is, these learners may possess only a subset of the formal features of the target lexical item which would drive syntactic derivations and license representations of the second grammar. But the Advanced participants demonstrate a sufficiently well articulated lexicon to form unitary lexical items which may be identified as belonging to two lexical sub-classes. Therefore, these participants will not only be more fluent in the component languages, but will demonstrate UG effects in their CS behavior. Thus the cline in the level of CS competence among our participants is at least partially explained by the corresponding cline in the assignment of features to the lexical items of the component languages. As aptly noted by Meisel, CS cannot be attested in incipient bilingual acquisition because one significant precondition for its emergence is not satisfied—the prerequisite of two sufficiently articulated and distinct grammars; he states, “one can only switch from one system into the other if the two are distinct (1995:414).”

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